Pre-Calc AB: Word Problem Review

1. Sara has $3.50 in nickels and dimes. SHe has twice as many dimes as nickels. How many nickels and how many dimes does she have?

2. A total of 73 horses and cats were on the ranch. If three times the number of horses exceeded the number of cats by three, how many of each where on the ranch?

3. In a mixture of copper and nickel, 510 ounces of copper were required to make 1360 ounces of the mixture. How much nickel was required to make 2200 ounces of the mixture?

    (a) 1320 oz
    (b) 1375 oz
    (c) 825 oz
    (d) 1100 oz

4. In a mixture of gold and platinum, 535 ounces of gold were required to make 1284 ounces of the mixture. How much platinum was required to make 1716 ounces of the mixture?

    (a) 858 oz
    (b) 686 oz
    (c) 1001 oz
    (d) 715 oz

5. How many gallons of a 40% acid solution must be mixed with 30 gallons of a 22% solution to obtain a solution that is 30% acid?

6. Reds vary directly as greens squared and inversely as yellows. When there are 40 reds, there were 2 greens and 4 yellows. How many red were there when there were 4 greens and 20 yellows?

7. A solution of 50% presticide is to be mixed with a solution of 21% pesticide to form 348 liters of a 42% solution. How many liters of the 50% solution must be used?

8. The sum of the digits of a two-digit counting number is 9. When the digits are reversed, the number is 9 greater than the original number. What was the original number?

9. How much pure water must be mixed with 4 pints of 70% developer to produce a mixture that is 18% developer?

10. Ella's piggy bank contained only pennies and nickels. When she counted the money there was $3.68. If there were 32 more pennies than nickels, how many of each tyoe of coin did Ella have?

11. One thousand iters of a solution was avaiable, but the solution was 65% alcohol. Neil needed a solution which was 60% alcohol. How many liters of alcohol had to be extracted so that the solution would be 60%?

12. If m varries directly as y, inversely as the square root of p, and directly as n squared, what happens to m when y is doubled, p is quadrupled, and n is tripled?

13. The flowers were marked up 110% of the cost to get a selling price of $10.50. They did not sell well, so the florist reduced the mark up to 70% of the cost. What was the new selling price?

14. How many gallons of a 80% salt solution must be mixed with 30 gallons of a 17% solution to obtain a solution that is 70%?

    (a) 5.1 gal
    (b) 159 gal
    (c) 15.9 gal
    (d) 51 gal

15. A solution of 50% fertilizer is to be mixed with a solution of 33% fertilizer to form 187 liters of a 48% solution. How many liters of the 50% solution must be used?

    (a) 180 L
    (b) 175 L
    (c) 165 L
    (d) 129 L

16. How much pure water must be mixed with 5 pints of 50% developer to produce a mixture that is 36% developer?

    (a) $1\frac{29}{36}$ pt
    (b) $6\frac{17}{18}$ pt
    (c) $1\frac{17}{18}$ pt
    (d) $6\frac{29}{36}$ pt

17. At the mop sale, Safemart sold m mops for d dollars. Good cafe was able to buy them for $1.25 less per mop. How many mops goud Good cafe purchase with $2000?

18. The second period computer manufacturing class of 30 students could make c computers in h hours If 5 students were absent, how long would it take to make 50 computers?

19. Mario knew that g gallons of milk would be enough for e childern for 15 days, but he needed enough for three more childern. How many days would t gallons of milk last?

20. Maria's r member crew could score p points in h hours. When b members went on vacation how many hours would it take the remaining crew members to score e points?

21. Rachel observed that it took t toymakers 11 days to make d dolls. Then, she calculated how long it would take b more toymakers to make 27 more dolls. What was her answer?

22. At a fruit sale, Safemart sold m mangos for d dollars. Good cafe was able to buy them for $1.50 less per mango. How many mangos could Good cage purchase with $1500?

   (a) $\frac{1500m}{d-1.50m}$
   (b) $\frac{1500}{d} - 1.50$
   (c) $\frac{1500}{1.50} + m$
   (d) $\frac{1500}{m+1.50}$

23. At the smoked ham sale, Safemart sold h hams for d dollars. Good cafe was able to buy them for $1.75 less per ham. How many could Good cage purchase with $2000?

   (a) $\frac{2000}{1.75d} + h$
   (b) $\frac{2000}{h+1.75}$
   (c) $\frac{2000h}{d-1.75}$
   (d) $\frac{2000h}{d-1.75h}$

24. Lupe's a member crew could do j jobs in h hours. When q members quit how many hours would it take the remainin crew member to do b jobs?

   (a) $\frac{(n-q)bh}{nj}$
   (b) $\frac{(n-q)b}{njh}$
   (c) $\frac{nb}{(n-q)jh}$
   (d) $\frac{nbh}{(n-q)j}$

25. One machine can make 24 levers in 4 minutes. Another machine can make 20 levers in 4 minutes. The second machine began making levers 5 minutes before the first began. How lond will it take the two machines together to finish making 223 levers?

   (a) 16 mins
   (b) 17 mins
   (c) 18 mins
   (d) 21 mins

1. 14 nickels and 28 dimes

2. 19 hourses and 54 cats

3. B

4. C

5. 24 gallons

6. 32

7. 252 L

8. 45

9. $11\frac{5}{9}$ pt

10. 88 pennies, 56 nickels

11. 125 L

12. m is divided by $\frac{1}{9}$

13. $8.50

14. B

15. C

16. C

17. $\frac{2000m}{d-1.25m}$ mops

18. $\frac{60h}{c}$

19. $\frac{15et}{g(e+3)}$

20. $\frac{reh}{(r-b)p}$

21. $\frac{11t(d+27)}{d(t+b)}$

22. A

23. D

24. D

25. C